44th Ave Manatee County
County Project No. 6086960

ROADWAY QUANTITIES

PAY ITEM NUMBER	DESCRIPTION	UNIT	TOTAL
0101 1	MOBILIZATION	LS	1
0102 1	MAINTENANCE OF TRAFFIC	LS	1
0102 60	WORK ZONE SIGN	ED	335
0102 74 1	CHANNELIZING DEVICE- TYPES I, II, DI, VP, DRUM, OR LCD	ED	744
0102 74 2	CHANNELIZING DEVICE, TYPE III, 6'	ED	203
0102 76	ARROW BOARD / ADVANCE WARNING ARROW PANEL	ED	2
0102 78	REFLECTIVE PAVEMENT MARKER, TEMPORARY	EA	961
0102 99	PORTABLE CHANGEABLE MESSAGE SIGN, TEMPORARY	ED	2
0102 107 1	TEMPORARY TRAFFIC DETECTION AND MAINTENANCE OF INTERSECTION	ED	200
0104 10 3	SEDIMENT BARRIERS	LF	25889
0104 11	FLOATING TURBIDITY BARRIER	LF	444
0104 12	STAKED TURBIDITY BARRIER	LF	76
0104 18	INLET PROTECTION SYSTEM	EA	120
0107 1	LITTER REMOVAL AND DISPOSAL	LS/AC	17.8
0107 2	MOWING	AC	9.34
0110 1 1	CLEARING & GRUBBING	AC	38
0110 4 10	REMOVAL OF EXISTING CONCRETE PAVEMENT	SY	3983
110 5	PLUGGING WATER WELLS, ARTESIAN	EA	1
110 6	PLUGGING WATER WELLS, NON-ARTESIAN	EA	1
120-1	REGULAR EXCAVATION	CY	81636
120-1	SUBSOIL EXCAVATION	CY	1571
0120 6	EMBANKMENT	CY	68998
0160 4	TYPE B STABILIZATION	SY	88633
285 701	OPTIONAL BASE, BASE GROUP 01	SY	2506
0285 709	OPTIONAL BASE, BASE GROUP 09	SY	70797
0327 70 05	MILLING EXISTING ASPHALT PAVEMENT (1.5" AVG DEPTH)	SY	3871
0334 1 13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	TN	10641
0337-7-83	ASPHALT CONCRETE FRICTION COURSE, TRAFFIC C ,FC-12.5, PG76-22	TN	9501
339-1	MISC. ASPHALT PAVEMENT	TN	13.25
400-0-11	CONCRETE CLASS NS, GRAVITY WALL	CY	58
0515-1-2	PIPE-HANDRAIL, ALUMINUM	LF	1068
0520-1-10	CONCRETE CURB, TYPE F	LF	16912
0520-1-11	CONCRETE CURB AND GUTTER - TYPE AB	LF	7681
520-5-11	CONCRETE TRAFFIC SEPARATOR TYPE 1, 4' WIDE	LF	1386
520-5-16	CONCRETE TRAFFIC SEPARATOR TYPE 1, 8.5' WIDE	LF	1401
521-1	MEDIAN CONCRETE BARRIER	LF	507
0521 72 5	SHOULDER CONCRETE BARRIER WALL	LF	595
0522 1	CONCRETE SIDEWALK AND DRIVEWAYS, 4" THICK	SY	14158
0522 2	CONCRETE SIDEWALK AND DRIVEWAYS, 6" THICK	SY	2599
527 2	DETECTABLE WARNINGS	SF	495
536-1-0	GUARDRAIL-ROADWAY GENERAL TL-2	LF	366.8
536-85-24	GUARDRAIL END ANCHORAGE ASSEMBLY/END TREATMENT- PARALLEL	EA	1
536-85-26	GUARDRAIL END ANCHORAGE ASSEMBLY/END TREATMENT- TYPE CRT	EA	1
570-1-1	HYDROSEED/MULCH	SY	26152
570-1-2	PERFORMANCE TURF, SOD	SY	19069
0710 11 101	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, 6"	GM	3.34
710-11-124	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR DIAGONAL OR CHEVRON, 18"	LF	97.8
710-11-125	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR STOP LINE OR CROSSWALK, 24"	LF	128.1
0710 11 131	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SKIP, 10-30 OR 3-9 SKIP, 6" WIDE	GM	52.79
710-11-160	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, MESSAGE OR SYMBOL	EA	2
0710 11 201	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, SOLID, 6"	GM	55.4
710-11-224	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW SOLID FOR DIAGONAL OR CHEVRON, 18"	LF	680.2
0999 25	INITIAL CONTINGENCY AMOUNT, DO NOT BID	LS/LS	1

44th Ave Manatee County
County Project No. 6086960

DRAINAGE QUANTITIES

PAY ITEM NUMBER	DESCRIPTION	UNIT	TOTAL
0400-1-2	CONCRETE CLASS I, ENDWALLS	CY	8
0400-2-2	STRAIGHT CONCRETE ENDWALL	CY	12.5
0425-1-351	INLETS, CURB, TYPE P-5, <10'	EA	20
0425-1-352	INLETS, CURB, TYPE P-5, >10'	EA	2
0425-1-361	INLETS, CURB, TYPE P-6, <10'	EA	17
0425-1-451	INLETS, CURB, TYPE J-5, <10'	EA	11
0425-1-452	INLETS, CURB, TYPE J-5, >10'	EA	7
0425-1-461	INLETS, CURB, TYPE J-6, <10'	EA	9
0425-1-462	INLETS, CURB, TYPE J-6, >10'	EA	1
0425-1-531	INLETS, DITCH BOTTOM, TYPE C MODIFIED- BACK OF SIDEWALK, <10'	EA	20
0425-1-541	INLETS, DT BOT, TYPE D, <10'	EA	4
0425-1-551	INLETS, DT BOT, TYPE E, <10'	EA	3
0425-1-581	INLETS, DT BOT, TYPE H, <10'	EA	2
0425-1-891	INLETS, BARRIER WALL, <10'	EA	5
0425-1-910	INLETS, CLOSED FLUME	EA	1
0425-2-41	MANHOLES, P-7, <10'	EA	6
0425-2-71	MANHOLES, J-7, <10'	EA	9
0425-2-72	MANHOLES, J-7, >10'	EA	5
0430-175-112	PIPE CULVERT,OPTIONAL MATERIAL,ROUND, 12"S/CD	LF	53
0430-175-118	PIPE CULVERT,OPTIONAL MATERIAL,ROUND, 18"S/CD	LF	4228
0430-175-124	PIPE CULVERT,OPTIONAL MATERIAL,ROUND, 24"S/CD	LF	2223
0430-175-130	PIPE CULVERT, OPT MATERIAL, ROUND, 30"S/CD	LF	716
0430-175-136	PIPE CULVERT, OPT MATERIAL, ROUND, 36"S/CD	LF	1329
0430-175-142	PIPE CULVERT, OPT MATERIAL, ROUND, 42"S/CD	LF	695
0430-175-148	PIPE CULVERT, OPT MATERIAL, ROUND, 48"S/CD	LF	1234
0430-175-154	PIPE CULVERT, OPT MATERIAL, ROUND, 54"S/CD	LF	3056
0430-175-160	PIPE CULVERT, OPT MATERIAL, ROUND, 60"S/CD	LF	1516
0430-175-218	PIPE CULVERT, OPT MATERIAL, OTHER SHAPE - ELIP/ARCH, 18"S/CD	LF	226
0430-175-224	PIPE CULVERT, OPT MATERIAL, OTHER SHAPE - ELIP/ARCH, 24"S/CD	LF	277
0430-175-230	PIPE CULVERT, OPT MATERIAL, OTHER SHAPE - ELIP/ARCH, 30"S/CD	LF	79
0430-175-242	PIPE CULVERT, OPT MATERIAL, OTHER SHAPE - ELIP/ARCH, 42"S/CD	LF	198
0430-175-254	PIPE CULVERT, OPT MATERIAL, OTHER SHAPE - ELIP/ARCH, 54"S/CD	LF	36
0430-982-125	MITERED END SECTION, OPTIONAL ROUND, 18" CD	EA	3
0430-982-129	MITERED END SECTION, OPTIONAL ROUND, 24" CD	EA	4
0430-982-138	MITERED END SECTION, OPTIONAL ROUND, 36" CD	EA	1
0430-982-142	MITERED END SECTION, OPTIONAL ROUND, 54" CD	EA	2
0430-982-143	MITERED END SECTION, OPTIONAL ROUND, 60" CD	EA	1
0430-982-625	MITERED END SECTION, OPTIONAL ELLIP/ARCH, 18" CD	EA	2
0430-982-629	MITERED END SECTION, OPTIONAL ELLIP/ARCH, 24" CD	EA	1

No.	REVISIONS	DATE	BY

SCALE: AS NOTED
DESIGNED:
DRAWN:
CHECKED:

ROBERT EDWARD HIDECK, P.E.
P.E. NO. 67495
HARDESTY & HANOVER, LLC
5110 EISENHOWER BOULEVARD, SUITE 310
TAMPA, FL 33634
(813) 749-0823
CERTIFICATE OF AUTHORIZATION 29741

DATE: 02/2019
PROJECT NO.: 6086960

Manatee County FLORIDA
PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East, Bradenton, FL 34208

DESIGN ENGINEER: ROBERT EDWARD HIDECK, P.E.
FL. LICENSE NO.: 67495

SUMMARY OF PAY ITEMS

SHEET NO

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SUMMARY OF PERMANENT BARRIER WALL

PAY ITEM NO.	PAY ITEM DESCRIPTION	LOCATION STA. TO STA.	SIDE	UNIT	QUANTITY P	QUANTITY F	TOTAL P	TOTAL F	DESIGN NOTES	CONSTRUCTION REMARKS
0521 1	Median Concrete Barrier Wall, Cast In Place	195+84.90 to 195+94.85	RT	LF	10.0		507			
		195+94.85 to 196+65.00	RT		70.4					
		196+65.00 to 196+75.00	RT		10.0					
		196+75.00 to 196+85.04	RT		10.0					
		196+85.04 to 197+23.55	RT		38.6					
		196+90.20 to 197+00.00	LT		9.8					
		197+00.00 to 197+25.36	LT		25.3					
		212+13.19 to 212+87.73	LT		74.4					
		212+84.90 to 214+23.00	RT		138.3					
		212+87.73 to 213+88.00	LT		100.2					
		213+88.00 to 213+98.00	LT		10.0					
		214+23.00 to 214+33.00	RT		10.0					
0521 72 5	Shoulder Concrete Barrier Wall, Rigid - Curb & Gutter	195+20.62 to 196+70.00	LT	LF	147.0		595			
		195+60.00 to 196+70.00	RT		111.8					
		196+70.00 to 197+14.83	RT		45.5					
		196+70.00 to 197+34.06	LT		63.1					
		212+71.59 to 214+00.00	RT		130.5					
		213+01.85 to 214+00.00	LT		96.9					

No.	REVISIONS	DATE	BY

SCALE: AS NOTED

ROBERT EDWARD HIDECK, P.E.
P.E. NO. 67495
HARDESTY & HANOVER, LLC
5110 EISENHOWER BOULEVARD, SUITE 310
TAMPA, FL 33634
(813) 749-0823
CERTIFICATE OF AUTHORIZATION: 29741

DATE: 02/2019

PROJECT NO.: 6086960

Manatee County FLORIDA
PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East, Bradenton, FL 34208

DESIGN ENGINEER: ROBERT EDWARD HIDECK, P.E.
FL. LICENSE NO.: 67495

SUMMARY OF QUANTITIES (22)

SHEET NO.: SQ-22

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GENERAL NOTES

1. FOR GENERAL NOTES SEE FDOT DESIGN STANDARDS. ALL INDEX REFERENCES ARE FOUND IN THIS BOOKLET.

2. PRIOR TO ANY EQUIPMENT ORDER, SUBMIT FOR APPROVAL EQUIPMENT SPECIFICATION OR DESIGN DATA FOR ALL MATERIAL PROPOSED FOR THE PROJECT. THESE MUST SPECIFICALLY INCLUDE:
   A) LUMINAIRE PHOTOMETRICS
   B) POLE STRENGTH CALCULATIONS
   C) POLE FRANGIBILITY TEST
   D) BOLT SPECIFICATIONS AND BOLT CIRCLE DIAMETER
   E) POLE, SERVICE POINT EQUIPMENT AND LOAD CENTER SHOP DRAWINGS
   F) LOAD CENTER ELECTRICAL EQUIPMENT

3. UTILITY OWNERS:

COMPANIES	CONTACT NAME	PHONE NUMBER
Spectrum	Jim Cruzan	727-329-2846
Manatee County Utilities	Jeff Streitmatter	941-708-7450 #7335
Manatee County Utilities	Scott May	941-708-7450 #7650
Florida Power & Light Distribution	Greg Coker	941-704-9087
Frontier Communications	Denise Hutton	941-906-6722
FPL Transmission	Gary Paterson	561-904-3665

4. THE LOCATIONS OF EXISTING UTILITIES, AS SHOWN ON THESE PLANS, ARE APPROXIMATE AND BASED ON THE INFORMATION FURNISHED TO THE ENGINEER BY THE UTILITY OWNER(S) AND ARE SHOWN AS NOTICE TO THE CONTRACTOR THAT UNDERGROUND UTILITIES EXIST. BEFORE EXCAVATING NOTIFY THE UTILITY COMPANY OWNER(S) AND REQUEST THEM TO LOCATE AND STAKE THEIR UNDERGROUND FACILITIES. UTILITIES ARE TO BE ADJUSTED BY OTHERS AS DIRECTED BY THE ENGINEER.

5. PROVIDE NOTICE TO THE UTILITY OWNER(S) PER FLORIDA STATUTE 553.851 (2004) AND 556 (2004). THESE STATUTES REQUIRE THAT BEFORE EXCAVATION, NOTICE BE GIVEN TO THE UTILITY OWNER A MINIMUM OF TWO (2) DAYS, EXCLUDING SATURDAY, SUNDAY AND LEGAL HOLIDAYS. NOT ALL UTILITY COMPANIES ARE MEMBERS OF "SUNSHINE" 1-800-432-4770.

6. THE LOCATION OF THE POLES, CONDUCTORS, CONDUITS, JUNCTION BOXES AND SERVICE POLES ARE DIAGRAMMATIC ONLY AND MAY BE SHIFTED BY THE CONTRACTOR TO ACCOMMODATE LOCAL CONDITIONS AND EXISTING UTILITY LOCATIONS.

7. ALUMINUM POLES, LUMINAIRES AND BASES SHALL BE FABRICATED IN ACCORDANCE WITH AASHTO'S "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS" AND SHALL HAVE BEEN TESTED BY FHWA- APPROVED METHODS. CERTIFICATION FOR TESTS SHALL BE SUBMITTED WITH THE SHOP DRAWINGS.

8. SUBMITTAL DATA SHALL INCLUDE COMPUTER PRINTOUT SHOWING HORIZONTAL FOOTCANDLE LEVELS TO BE OBTAINED USING THE SUBMITTED LUMINAIRES ON THIS PROJECT. AT FINAL INSPECTION THE CONTRACTOR SHALL VERIFY THE HORIZONTAL FOOTCANDLE LEVELS ON THE ROADWAY WITH AN APPROVED RECENT CALIBRATED LIGHT METER CERTIFIED BY A PROFESSIONAL AGENCY.

9. ALL ELECTRICAL WORK SHALL MEET ALL REQUIREMENTS OF THE LATEST EDITIONS OF THE NATIONAL ELECTRICAL CODE, THE NATIONAL ELECTRICAL SAFETY CODE AND THE FDOT SPECIFICATIONS. ALL COMPONENTS SHALL BE PROPERLY GROUNDED AND BONDED PER N.E.C. REQUIREMENTS.

10. IN ACCORDANCE WITH N.E.C., IDENTIFY ALL CIRCUITS AND EQUIPMENT WITH "LAMACOID TAGS". INSTALL SIMILAR TAGS OF STAINLESS STEEL IDENTIFYING CIRCUIT FOR EACH LUMINAIRE AT ACCESS HANDHOLE FOR EACH POLE.

11. EXTREME CAUTION SHALL BE EXERCISED AT ALL TIMES IN PERFORMANCE OF WORK AROUND THE PRIMARY HIGH VOLTAGE COMPONENTS. NO ROADWAY LIGHTING FACILITIES SHALL BE PLACED WITHIN THE 10' OSHA CLEAR ZONE AREAS FOR OVERHEAD DISTRIBUTION ELECTRIC LINES AND WITHIN 15 FEET FOR OH TRANSMISSION LINES.

12. PULLING INSTRUCTIONS: CONNECT PULLING DEVICES TO COPPER WIRE AND NOT TO JACKET AND MEET MANUFACTURER'S REQUIRMENTS. USE PULLING COMPOUND PER MANUFACTURER'S REQUIREMENTS. ALL BEND RADIUS SHALL NOT BE LESS THAN RECOMMENDED BY N.E.C. OR N.E.S.C. FOR CABLE USED.

13. STAKE ALL POLE LOCATIONS AND REQUEST UTILITY COMPANIES TO LOCATE AND STAKE UNDERGROUND UTILITIES PRIOR TO EXCAVATING.

14. FURNISH AND INSTALL AN ALUMINUM IDENTIFICATION TAG ON EACH ROADWAY LIGHTING STANDARD AND ILLUMINATED OVERHEAD SIGNS. TAGS SHALL BE 2" X 8" IN SIZE WITH BLACK LETTERS ON YELLOW BACKGROUND, ATTACHED WITH APPROVED ADHESIVE (NO SCREWS OR RIVETS). NUMBERS SHALL BE AS SHOWN ON THE POLE IDENTIFICATION TAG DETAIL. COST OF TAGS SHALL BE INCLUDED IN THE BID ITEMS FOR LIGHT POLE COMPLETE. TAG SHALL BE PLACED 5 FEET ABOVE GRADE AND FACING THE ROADWAY. THE CONTRACTOR SHALL COOORDINATE WITH MANATEE COUNTY ROADWAY MAINTENANCE FOR PROPER NUMBERING SEQUENCE OF LOAD CENTER, CIRCUITS, AND POLES BEFORE ORDERING TAGS.

15. VERIFY POLE LENGTHS REQUIRED PER THE ROADWAY CROSS SECTIONS AND OFFSETS IN ORDER TO ACHIEVE THE PROPER MOUNTING HEIGHT FOR EACH LUMINAIRE. THIS VERIFICATION SHALL OCCUR PRIOR TO THE SUBMISSION OF SHOP DRAWINGS. MOUNTING HEIGHTS ARE DETERMINED FROM THE BOTTOM OF THE LUMINAIRE HOUSING VERTICALLY TO PAVEMENT GRADE.

16. ALL CONDUITS UNDER ROADWAY (AND/OR SIDEWALK) SHALL BE INSTALLED PRIOR TO INSTALLATION OF ROADWAY BASE AND SURFACE (OR CONCRETE). EXCEPT WHERE OTHERWISE SPECIFIED IN THE PLANS.

17. JACK AND BORE OPERATIONS IF USED SHALL MEET THE REQUIREMENTS OF F.D.O.T.'S UTILITY ACCOMMODATION GUIDE. (LASTEST EDITION).

18. ALL CONDUIT TRENCHES SHALL BE BACKFILLED COMPLETELY TO PROVIDE SAFE CROSSINGS BY THE END OF EACH WORKING DAY OR WHENEVER THE WORK ZONE BECOMES INACTIVE. THE CONTRACTOR SHALL NOT OPEN ANY AREA THAT CAN NOT BE BACKFILLED IN THE SAME DAY/NIGHT OPERATION.

19. UPON FINAL ACCEPTANCE OF THE PROJECT, PREPARE ACCURATELY DIMENSIONED "AS-BUILT" PLANS OF THE FINAL POLE, LOAD CENTER CABINET, PULL BOXES, CABLE AND CONDUIT LOCATIONS. THE CONTRACTOR SHALL FORWARD A COMPLETE SET OF REVIEWED AND APPROVED AS-BUILT PLANS WITH ALL CHANGES MARKED IN RED TO THE MANATEE COUNTY OFFICE. AS-BUILD PLANS SHOULD BE SUBMITTED TO MANATEE COUNTY TRAFFIC DESIGN DIVISION, ATTN: MR. GERARDO TRAVERSO, PE, PMP AT 2101 47TH TERRACE EAST, BRADENTON, FL 34203.

20. ALL ROADSIDE LIGHTING PULL BOXES SHALL BE MARKED "STREET LIGHTING". ALL PULL BOX ~~METAL~~ COVERS SHALL BE MARKED "STREET LIGHTING" AND SHALL BE PROVIDED WITH A GROUND LUG. ⚠1

21. REFERENCE THE BRIDGE STRUCTURAL PLANS FOR THE EMBEDDED ELECTRICAL ITEMS: CONDUIT, PULL BOX, JUNCTION BOX AND THEIR LOCATIONS.

22. CONDUIT LOCATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. CONDUIT MUST BE PLACED WITHIN THE RIGHT-OF-WAY BUT CAN BE ADJUSTED TO FIT AROUND THE EXISTING AND PROPOSED UTILITIES. WHERE PLANNED LOCATION OF LIGHTING CONDUIT RUNS 30" UNDER PAVEMENT IS FOUND TO CONFLICT WITH UNDERGROUND UTILITIES, THE LIGHTING CONDUIT POSITION SHALL BE ALTERED ~~VERTICALLY OR~~ HORIZONTALLY TO AVOID THE CONFLICT AS RECOMMENDED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. ~~A 24" ABSOLUTE MINIMUM DEPTH SHALL BE MAINTAINED WHERE LIGHTING CONDUITS ARE RELOCATED CLOSER THAN 30" BELOW THE GROUND SURFACE AND SHALL BE PLACED IN AN ADDITIONAL 3" PVC SLEEVE OR BACKFILLED WITH A MIN. OF 4"x4" OF CONCRETE. COST OF SUCH TREATMENT WILL BE INCIDENTAL TO PAY ITEMS PROVIDED.~~ ⚠1 ⚠1

23. ALL EXCESS DIRT AND DEBRIS EXCAVATED FROM POLE FOUNDATIONS SHALL BE REMOVED DAILY TO AREAS APPROVED BY THE ENGINEER AND PAID FOR UNDER PAY ITEM 715-5AB-CDD.

24. ALL SPLICES SHALL BE MADE IN PULL BOXES ONLY WITH COMPRESSION SLEEVES OR SPLIT BOLT CONNECTORS, PROPERLY TAPED AND WATERPROOFED. SPLICES AND CONNECTIONS MADE IN PULL BOXES SHALL BE LIMITED TO THE SERVICE POINT AND CONDUIT JUNCTION WITH MULTI-DIRECTIONAL CONDUITS AS INDICATED ON PLANS. THE CONNECTION MADE AT THESE POINTS SHALL BE PROPERLY TAPED AND WATERPROOFED.

25. INSPECT ALIGNMENT OF EACH INDIVIDUAL POLE AND FIXTURE AS FOLLOWS:

    POLE ALIGNMENT: WITHIN ONE HALF DEGREE ON VERTICAL +/-, CONFIRM VERTICAL ALIGNMENT, VIEWING FROM ADJACENT SERIES OF POLES, IN BOTH DIRECTIONS.
    FIXTURE ALIGNMENT: WITHIN ONE DEGREE OF HORIZONTAL +/-, USING CALIBRATED LEVEL ALONG BOTH AXES OF CUT-OFF FIXTURE FACE, WITH LENS ONLY: NO REFRACTOR TYPE FIXTURES SHALL BE USED.

26. ALL CONDUITS SHALL BE MANDREL TESTED AND CLEANED. CONDUITS PLACED FOR FUTURE USE SHALL HAVE POLYESTER CORD PULLED IN PLACE AND CAPPED, WITH NOTATION INSIDE CONDUIT AS TO LOCATION OF OPPOSITE END. PLACE DUCT MARKER OR MARK PULL BOXES TO INDICATE ENDS OF EMPTY CONDUITS.

27. SPARE CONDUIT AT MAINLINE AND ARTERIAL ROAD PAVEMENT CROSSINGS SHALL BE CAPPED AT BOTH ENDS.

28. DO NOT INSTALL LIGHT POLES, PULL BOXES AND/OR LOAD CENTERS WITHIN ANY DITCHES OR AREAS THAT MAY CAUSE WATER INTRUSION.

29. AS PART OF THE 7 DAY TEST BURNING PERIOD, EACH CIRCUIT SHALL BE LABELED WITH THE LOAD AMPERAGE READING AT THE LOAD CENTER PANEL.

30. ~~ALL POLES LOCATED ON SLOPES GREATER THAN 1:4 UP TO 1:2 HAVE BEEN FLAGGED ON THE POLE DATA SHEETS. FOUNDATIONS SHALL BE DESIGNED PER INDEX 17515. IF FIELD CONDITION CHANGES DURING CONSTRUCTION AFFECT A SIDE SLOPE, USE THE APPROPRIATE FOUNDATION FOR THE ACTUAL CONDITION.~~ ⚠1

31. AT LOCATIONS WHERE UNDERGROUND UTILITIES ARE WITHIN FIVE FEET OF A LIGHTING POLE FOUNDATIONS AND/OR CONDUIT RUN(S), AS DETERMINED BY THE ENGINEER, THE CONTRACTOR WILL HAND DIG THE FIRST 4 FEET OF THE HOLE FOR THE POLE FOUNDATION AND/OR CONDUIT RUN(S).

32. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE TRAFFIC CONTROL PLANS IN THE ROADWAY PLANS FOR TEMPORARY LIGHTING INSTALLATION DETAILS AND NOTES.

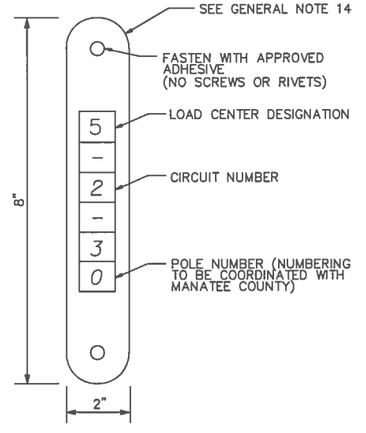
33. ALL LIGHTING FIXTURES SHALL BE FDOT APPROVED LED AND LISTED ON THE CURRENT APL. PROVIDE MATERIAL SUBMITTAL TO MANATEE COUNTY FOR APPROVAL OF FIXTURE BEFORE ORDERING.

KEY TO POLE LABELING

STATION
STA. 73+20 } SR 589
POLE P-1 ID. 5-1-3

POLE NO.

CIRCUIT ID:
LOAD CENTER
CIRCUIT NUMBER
POLE NUMBER W/IN CIRCUIT



POLE IDENTIFICATION TAG DETAIL
N.T.S.

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

No.	REVISIONS	DATE	BY
⚠1	REVISED NOTES 20, 22, 30		

SCALE: AS NOTED
DESIGNED BY: H. JUSZCZYK
DRAWN BY: H. GRIMALDO
CHECKED BY: P. PASTORE

HENRYK B. JUSZCZYK, P.E.
P.E. NO. 58082
AECOM TECHNICAL SERVICES, INC.
7650 WEST COURTNEY CAMPBELL CAUSEWAY
TAMPA, FL 33607-1462
(813) 286-1711
CERTIFICATE OF AUTHORIZATION: 8115

DATE: 02/16/2018
PROJECT NO.: 6086960

Manatee County FLORIDA
PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East, Bradenton, FL 34208

DESIGN ENGINEER: HENRYK B. JUSZCZYK, P.E.
FL. LICENSE NO.: 58082

GENERAL NOTES

SHEET NO.: L-4

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LEGEND

SYMBOLS	DESCRIPTION
	SINGLE ARM, SHOULDER MOUNT, LIGHTING STANDARD ALUMINUM POLE, COBRA HEAD WITH ARM, IDENTIFICATION TAG AND 170 WATT LED LUMINARIES DESIGNED WITH CLEAR FLAT GLASS FOR MEDIUM CUTOFF, TYPE III PHOTOMETRIC DISTRIBUTION EQUAL TO AMERICAN ELECTRIC LIGHTING CATALOG NUMBER ABTL-A-480-R3-4B-NL-NR WIRED FOR 480 VOLT OPERATION. MOUNTING HEIGHT 40', SYMBOL INCLUDES POLE CABLE DISTRIBUTION SYSTEM (PAID FOR SEPARATELY) ALUMINUM POLE WITH FRANGILE BASE, CONCRETE FOUNDATION, PULL BOX, CONCRETE PAD, AND GROUNDING SHALL BE AS FDOT STANDARD INDEX.
	DOUBLE ARM, SHOULDER MOUNT, LIGHTING STANDARD ALUMINUM POLE, COBRA HEAD WITH ARM, IDENTIFICATION TAG AND 170 WATT LED LUMINARIES DESIGNED WITH CLEAR FLAT GLASS FOR MEDIUM CUTOFF, TYPE III PHOTOMETRIC DISTRIBUTION EQUAL TO AMERICAN ELECTRIC LIGHTING CATALOG NUMBER ABTL-A-480-R3-4B-NL-NR WIRED FOR 480 VOLT OPERATION. MOUNTING HEIGHT 40', SYMBOL INCLUDES POLE CABLE DISTRIBUTION SYSTEM (PAID FOR SEPARATELY) ALUMINUM POLE WITH FRANGILE BASE, CONCRETE FOUNDATION, PULL BOX, CONCRETE PAD, AND GROUNDING SHALL BE AS FDOT STANDARD INDEX.
	SINGLE ARM, BRIDGE MOUNT, LIGHTING STANDARD ALUMINUM POLE, COBRA HEAD WITH ARM, IDENTIFICATION TAG AND 170 WATT LED LUMINARIES DESIGNED WITH CLEAR FLAT GLASS FOR MEDIUM CUTOFF, TYPE III PHOTOMETRIC DISTRIBUTION EQUAL TO AMERICAN ELECTRIC LIGHTING CATALOG NUMBER ABTL-A-480-R3-4B-NL-NR WIRED FOR 480 VOLT OPERATION. MOUNTING HEIGHT 40', SYMBOL INCLUDES POLE CABLE DISTRIBUTION SYSTEM (PAID FOR SEPARATELY) ALUMINUM POLE WITH FRANGILE BASE, CONCRETE FOUNDATION, PULL BOX, CONCRETE PAD, AND GROUNDING SHALL BE AS FDOT STANDARD INDEX.
	SINGLE ARM, SHOULDER MOUNT, LIGHTING STANDARD ALUMINUM POLE, COBRA HEAD WITH ARM, IDENTIFICATION TAG AND 200 WATT LED LUMINARIES DESIGNED WITH CLEAR FLAT GLASS FOR MEDIUM CUTOFF, TYPE II PHOTOMETRIC DISTRIBUTION EQUAL TO AMERICAN ELECTRIC LIGHTING CATALOG NUMBER ABTL-C-480-R2-4B-NL-NR WIRED FOR 480 VOLT OPERATION. MOUNTING HEIGHT 40', SYMBOL INCLUDES POLE CABLE DISTRIBUTION SYSTEM (PAID FOR SEPARATELY) ALUMINUM POLE WITH FRANGILE BASE, CONCRETE FOUNDATION, PULL BOX, CONCRETE PAD, AND GROUNDING SHALL BE AS FDOT STANDARD INDEX.
	SINGLE ARM, SHOULDER MOUNT, LIGHTING STANDARD ALUMINUM POLE, COBRA HEAD WITH ARM, IDENTIFICATION TAG AND 279 WATT LED LUMINARIES DESIGNED WITH CLEAR FLAT GLASS FOR MEDIUM CUTOFF, TYPE III PHOTOMETRIC DISTRIBUTION EQUAL TO AMERICAN ELECTRIC LIGHTING CATALOG NUMBER ABTL-G-480-R3-4B-NL-NR WIRED FOR 480 VOLT OPERATION. MOUNTING HEIGHT 40', SYMBOL INCLUDES POLE CABLE DISTRIBUTION SYSTEM (PAID FOR SEPARATELY) ALUMINUM POLE WITH FRANGILE BASE, CONCRETE FOUNDATION, PULL BOX, CONCRETE PAD, AND GROUNDING SHALL BE AS FDOT STANDARD INDEX.
	SINGLE ARM, SHOULDER MOUNT, LIGHTING STANDARD ALUMINUM POLE, COBRA HEAD WITH ARM, IDENTIFICATION TAG AND 279 WATT LED LUMINARIES DESIGNED WITH CLEAR FLAT GLASS FOR MEDIUM CUTOFF, TYPE IV PHOTOMETRIC DISTRIBUTION EQUAL TO AMERICAN ELECTRIC LIGHTING CATALOG NUMBER ABTL-G-480-R4-4B-NL-NR WIRED FOR 480 VOLT OPERATION. MOUNTING HEIGHT 40', SYMBOL INCLUDES POLE CABLE DISTRIBUTION SYSTEM (PAID FOR SEPARATELY) ALUMINUM POLE WITH FRANGILE BASE, CONCRETE FOUNDATION, PULL BOX, CONCRETE PAD, AND GROUNDING SHALL BE AS FDOT STANDARD INDEX.

LEGEND

SYMBOLS	DESCRIPTION
	2" SCHEDULE 40 PVC CONDUIT, UNLESS OTHERWISE NOTED ON THE PLANS, DIRECT BURIED, CONTAINING CIRCUIT CONDUCTORS AS INDICATED ON PLANS. ALL CONDUCTORS SHALL BE STRANDED COPPER, WITH THWN-2 INSULATION. GROUND CONDUCTORS SHALL HAVE GREEN COLOR INSULATION. RUN GROUND CONDUCTORS INSIDE CONDUIT WITH OTHER CONDUCTORS. SEE F.D.O.T. INDEX 17721.
	TWO (2) 2" SCHEDULE 80 PVC CONDUIT, EMBEDDED IN THE WALL (TRAFFIC RAILING BARRIER), BRIDGE TRAFFIC RAILING BARRIER, CONTAINING CIRCUIT CONDUCTORS AS INDICATED ON PLANS. ALL CONDUCTORS SHALL BE STRANDED COPPER, WITH THWN-2 INSULATION. GROUND CONDUCTORS SHALL HAVE GREEN COLOR INSULATION. RUN GROUND CONDUCTORS INSIDE CONDUIT WITH OTHER CONDUCTORS. SEE F.D.O.T. INDEX 17721.
	TWO (2) 2" SCHEDULE 40 PVC CONDUITS, ONE ACTIVE AND ONE SPARE, ~~DIRECT BURIED~~ DIRECTIONAL BORE (1) UNDER EXISTING ROADWAY. EXTEND CONDUITS BEYOND EDGE OF PAVEMENT (BOTH SIDES) AND TERMINATE IN PULL BOXES. THE ACTIVE CONDUIT SHALL CONTAIN CONDUCTORS AS INDICATED ON PLANS. ALL CONDUCTORS SHALL BE STRANDED COPPER, WITH THWN-2 INSULATION. GROUND CONDUCTORS SHALL HAVE GREEN COLOR INSULATION. RUN GROUND CONDUCTORS INSIDE ACTIVE CONDUIT WITH OTHER CONDUCTORS. SEE F.D.O.T. INDEX 17721. CAP BOTH ENDS OF SPARE CONDUIT.
	SERVICE POINT LOAD CENTER. SEE F.D.O.T. INDEX 17504. PROVIDE LOAD CENTER, CONCRETE PAD, SERVICE DROP/LATERAL, FUSED DISCONNECT SWITCH, GROUND ROD AND MISCELLANEOUS APPURTENANCES AS DETAILED ON LOAD CENTER DETAIL SHEETS. THE LOAD CENTER, CONCRETE PAD, SERVICE LATERAL CONDUIT AND CONDUCTORS, DISCONNECT SWITCH, ALL UTILITY COMPANY FEES AND MISCELLANEOUS APPURTENANCES ARE INCIDENTAL TO THE LOAD CENTER.
	PULL BOX WITH CONCRETE PAD AND A 5/8" X 20 FT. GROUND ROD. SEE F.D.O.T. INDEX 17500. PROVIDE PULL BOXES WHERE SHOWN ON PLANS, AT BOTH ENDS OF CONDUIT AT ROADWAY CROSSINGS AND ELSEWHERE AS NECESSARY FOR THE COMPLETION OF THE PROJECT.
	PULL BOX EMBEDDED IN WALL (TRAFFIC RAILING BARRIER) OR BRIDGE TRAFFIC RAILING BARRIER. THE PULL BOX IS INCIDENTAL TO THE WALL OR BRIDGE CONSTRUCTION AS APPLICABLE.
	UTILITY SERVICE POLE

CONVENTIONAL LIGHTING DESIGN CRITERIA

Average Initial Intensity (Roadway)	1.5 F.C.
Uniformity Ratio Avg./Min.	4:1 OR LESS
Uniformity Ratio MAX./Min.	10:1 OR LESS
Veiling Luminance Ratio	0.3:1 OR LESS
Basic Wind Speed	130 MPH

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

No.	REVISIONS	DATE	BY
1	REVISED DESCRIPTION		

SCALE: AS NOTED
DESIGNED BY: H. JUSZCZYK
DRAWN BY: H. GRIMALDO
CHECKED BY: P. PASTORE

HENRYK B. JUSZCZYK, P.E.
P.E. NO. 58082
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7650 WEST COURTNEY CAMPBELL CAUSEWAY
TAMPA, FL 33607-1462
(813) 286-1711
CERTIFICATE OF AUTHORIZATION: 8115

DATE: 02/16/2018
PROJECT NO.: 6086960

Manatee County FLORIDA
PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East, Bradenton, FL 34208

DESIGN ENGINEER: HENRYK B. JUSZCZYK, P.E.
FL. LICENSE NO.: 58082

LEGEND

SHEET NO.: L-7

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GENERAL LIFT STATION NOTES:

1. ALL ACCESS COVERS SHALL BE ALUMINUM, WITH 316 STAINLESS STEEL HARDWARE AND RATED FOR 300 P.S.F. LOADING. ALL ALUMINUM SURFACES IN CONTACT WITH CONCRETE SHALL HAVE 2 COATS BITUMASTIC EPOXY, TOTAL 16 MILS DFT. ALL ACCESS COVERS SHALL BE EQUIPPED WITH A LOCKING STAPLE OR BAR FOR USE WITH A PADLOCK. PADLOCKS FOR WETWELL, FENCE GATE AND CONTROL PANELS OF PUBLICLY OWNED & MAINTAINED LIFT STATIONS SHALL BE FURNISHED BY THE MANATEE COUNTY UTILITIES DEPARTMENT, UPON ACCEPTANCE.
2. INSTALL WET WELL VENT ON THE HINGED SIDE OF THE WET WELL HATCH COVER, BETWEEN DISCHARGE PIPING AND MATCH HEIGHT.
3. ALL METAL APPURTENANCES INCLUDING BOLTS, NUTS AND WASHERS SHALL BE 316 STAINLESS STEEL. ALL STAINLESS STEEL BOLTS SHALL BE TREATED WITH NEVER-SEIZE PRIOR TO ASSEMBLY.
4. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT FLOTATION.
5. TOP OF WET WELL AND VALVE ASSEMBLY SLAB SHALL BE AT THE SAME ELEVATION.
6. ELECTRICAL CONDUIT SHALL BE RUN BY THE SHORTEST ROUTE POSSIBLE FROM THE ELECTRICAL SOURCE TO THE CONTROL PANEL AND FROM THE CONTROL PANEL TO THE LIFT STATION WET WELL.
7. THE ANTENNA FOR THE RADIO TELEMETRY UNIT REQUIRES DIRECT LINE-OF-SIGHT SIGNALING CAPABILITY TO THE UTILITIES DEPARTMENT'S OFFICE THAT WILL RECEIVE THE SIGNAL. THERE SHALL BE AN UNOBSTRUCTED HORIZONTAL ANGLE OF FIFTEEN (15) DEGREES FROM THE ANTENNA MAST (7.5 DEGREES ON BOTH SIDES OF THE DIRECT LINE-OF-SIGHT AZIMUTH). NO TREE SHALL BE PLANTED WITHIN THE DESIGNATED UNOBSTRUCTED ANGLE FOR A TWENTY (20) FEET HORIZONTAL DISTANCE MEASURED FROM THE MAST. LANDSCAPE BUFFER PLANTINGS ARE TO BE FIELD ADJUSTED IN COORDINATION WITH THE LOCATION OF THE CONSTRUCTED TELEMETRY ANTENNA. THE ANTENNA TOWER/MAST SHALL BE TO THE LEFT OF THE CONTROL PANEL.

GRINDER LIFT STATION NOTES:

1. GRINDER LIFT STATION SHALL BE IN ACCORDANCE WITH THE LATEST MANATEE COUNTY UTILITY STANDARDS, UNLESS OTHERWISE STATED BELOW.
2. ALL THE HATCH COVERS SHALL BE 2/3 HINGED TO ALLOW FOR MAXIMUM ACCESS TO THE WET WELL. THE HATCH COVER SHALL INCLUDE A SINGLE OR DUAL DOOR OF DIMENSIONS SPECIFIED BY THE PUMP MANUFACTURER FOR PROPER PUMP CLEARANCE.
3. ALL FORCE MAIN PIPING AND FITTINGS WITHIN THE WET WELL AND THE VALVE VAULT SHALL BE PVC SCHEDULE 80. THE FORCE MAIN SHALL BE AT LEAST 18 INCHES BELOW THE TOP WITHIN THE WET WELL & VALVE VAULT. A 90 DEGREE BEND, THAT IS TURNED DOWN, SHALL BE INSTALLED 18 INCHES OUTSIDE OF THE VALVE VAULT TO OBTAIN A MINIMUM 3 FEET OF COVER. ALL PIPING SHALL BE COLOR CODED IN ACCORDANCE WITH THESE STANDARDS. GREEN-RAW SEWAGE; PANTONE 522C PURPLE-RECLAIMED: BLUE-POTABLE WATER.
4. ANCHORS & LIFTING DEVICES SHALL NOT PENETRATE THE WALLS OF THE WET WELL.
5. VERTICAL PVC PUMP DISCHARGE PIPE IN THE WET WELL SHALL BE BRACED, TOP BRACE TO BE 2' FROM TOP ELBOW, LOWER BRACE TO BE 4' ABOVE BASE ELBOW, MAX. SPACING OF 8' BETWEEN BRACES. THE PIPE SHALL BE CLAMPED TO A SINGLE LENGTH OF 1-5/8" STAINLESS STEEL CHANNEL (UNISTRUT P1000 OR EQUAL) INSTALLED HORIZONTALLY AND ANCHORED TO THE WET WELL WALL AT EACH END WITH A CENTER BRACE OF 1-5/8" CHANNEL ATTACHED TO THE BACK OF THE WET WELL. THE PIPE CLAMPS SHALL BE UNISTRUT P1117 STAINLESS STEEL OR EQUAL.

DESIGN CONDITIONS

MANUFACTURER	HYDROMATIC		
MODEL	HPG200	2	HP
GPM	41	20	FT/TDH
VOLTAGE	~~208~~ 230 ⚠	3	PHASE
DISCHARGE (INCHES)	1.25	4	IMPELLER (INCHES)

PUMPS SHALL BE OF THE SUBMERSIBLE TYPE. EACH PUMP SHALL BE MOUNTED ON A BPIU.12 RAIL SYSTEM. THE RAIL SYSTEM SHALL BE SELF ENGAGING RESULTING IN A LEAKPROOF COUPLING. THE RAIL SYSTEM SHALL INCLUDE THE BASE ELBOW, DISCHARGE FLANGE ASSEMBLY, Ø1" 316 SS GUIDE RAILS, 316 SS UPPER GUIDE BRACKET, 316 SS LIFTING BAIL AND CABLE, AND A SIX-HOOK 316 SS CABLE HOLDER. THE RAIL SYSTEM SHALL BE MOUNTED AND PRE-PIPED BY THE PUMP SUPPLIER.

PUMP CONSTRUCTION
THE PUMP VOLUTE, MOTOR AND SEAL HOUSING SHALL BE CONSTRUCTED OF CAST IRON, ASTM A-48. ALL EXTERNAL FASTENERS SHALL BE SERIES 300 STAINLESS STEEL. THE PUMP SHAFT SHALL BE CONSTRUCTED OF SERIES 416 STAINLESS STEEL.

IMPELLER
THE IMPELLER SHALL BE OF MULTI-VANE, SEMI-OPEN BRONZE CONSTRUCTION. THE IMPELLER SHALL INCLUDE PUMP-OUT VANES ON THE BACK OF THE IMPELLER AND SHALL BE STATICALLY AND HYDRAULICALLY BALANCED.

CUTTERS
A TWO-STAGE CUTTER ASSEMBLY SHALL BE MOUNTED ON THE SUCTION SIDE OF THE PUMP WITH DIRECT DISCHARGE INTO THE PUMP IMPELLER. THE GRINDER SHALL BE CAPABLE OF GRINDING ALL MATERIALS FOUND IN NORMAL, DOMESTIC SEWAGE, INCLUDING PLASTICS, RUBBER, SANITARY NAPKINS, DISPOSABLE DIAPERS AND WOOD PARTICLES, INTO A FINE SLURRY. BOTH THE STATIONARY AND ROTATING CUTTERS SHALL BE CONSTRUCTED OF 440C STAINLESS STEEL HARDENED TO ROCKWELL 60C.

MOTOR
THE MOTOR SHALL BE MOUNTED IN A SEALED, SUBMERSIBLE TYPE HOUSING. THE STATOR SHALL BE SECURELY HELD IN PLACE WITH A REMOVABLE END RING AND THREADED FASTENERS FOR EASE OF REMOVAL WITHOUT THE USE OF HEAT OR A PRESS. THE MOTOR WILL HAVE TWO HEAVY-DUTY BALL BEARINGS; ONE UPPER (RADIAL) AND ONE LOWER (THRUST), TO SUPPORT THE SHAFT. THE MOTOR SHALL BE EQUIPPED WITH A WINDING THERMOSTAT THAT AUTOMATICALLY SHUTS THE MOTOR OFF IN CASE OF MOTOR OVERHEATING.

SEAL CHAMBER
THE PUMP SHALL HAVE TWO MECHANICAL SEALS, MOUNTED IN TANDEM WITH AN OIL CHAMBER BETWEEN THE SEALS (OR EQUIVALENT). THE PUMP SHALL BE EQUIPPED WITH A SEAL LEAK DETECTION PROBE AND WARNING SYSTEM BY USING A SEAL FAILURE SENSOR INSTALLED IN THE SEAL CHAMBER.

WET WELL
THE PUMP SUPPLIER SHALL PROVIDE THE FIBERGLASS WET WELL. THIS GLASS FIBER-REINFORCED POLYESTER BASIN SHALL BE CONSTRUCTED OF A COMMERCIAL GRADE OF GLASS FIBER AND SHALL BE PROVIDED WITH AN ANTI-FLOTATION RING WITH A MINIMUM DIAMETER OF THREE INCHES LARGER THAN THE BASIN DIAMETER. THE RAIL SYSTEM, INTERNAL PIPING AND DISCHARGE CONNECTIONS SHALL BE PRE-INSTALLED BY THE PUMP SUPPLIER.

VALVE BOX
THE VALVE BOX IS FIBERGLASS WITH ALUMINUM LOCKABLE COVER. STANDARD SIZE VALVE BOX IS 3' X 2 1/2' X 2'.

VALVES
VALVES SHALL BE SEWAGE SWING CHECK WITH CLEAN-OUT PORTS AND BRASS GATE VALVES.

FLOATS
FLOATS SHALL BE MDIGFLOW4000W OR EQUAL.

CONTROLS
THE CONTROL PANEL SHALL CONFORM TO THE CURRENT MANATEE COUNTY SPECIFICATIONS.

SUPPLIER
PUMP SUPPLIER SHALL PROVIDE SUBMERSIBLE PUMPS, SLIDE RAIL ASSEMBLIES, CONTROL PANEL, FLOAT SWITCHES, ALUMINUM HATCHES AND ACCESSORIES TO INSURE PROPER OPERATIONS AND WARRANTY. THE COMPLETE PACKAGE PUMPING STATION SHALL HAVE PUMP BASES, RAIL ASSEMBLIES, AND DISCHARGE PIPING READY FOR FIELD INSTALLATION.

No.	REVISIONS	DATE	BY
⚠	ADDENDUM	12/19/19	TS

SCALE: AS NOTED
DESIGNED BY: R.A.
DRAWN BY: T.S.
CHECKED BY: T.C.

TIMOTHY M. CURRAN, P.E.
P.E. NO. 34809
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7650 WEST COURTNEY CAMPBELL CAUSEWAY
TAMPA, FL 33607-1462
(813) 286-1711
CERTIFICATE OF AUTHORIZATION: 8115

DATE: FEBRUARY 2019
PROJECT NO.: 6086960

Manatee County FLORIDA
PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East, Bradenton, FL 34208

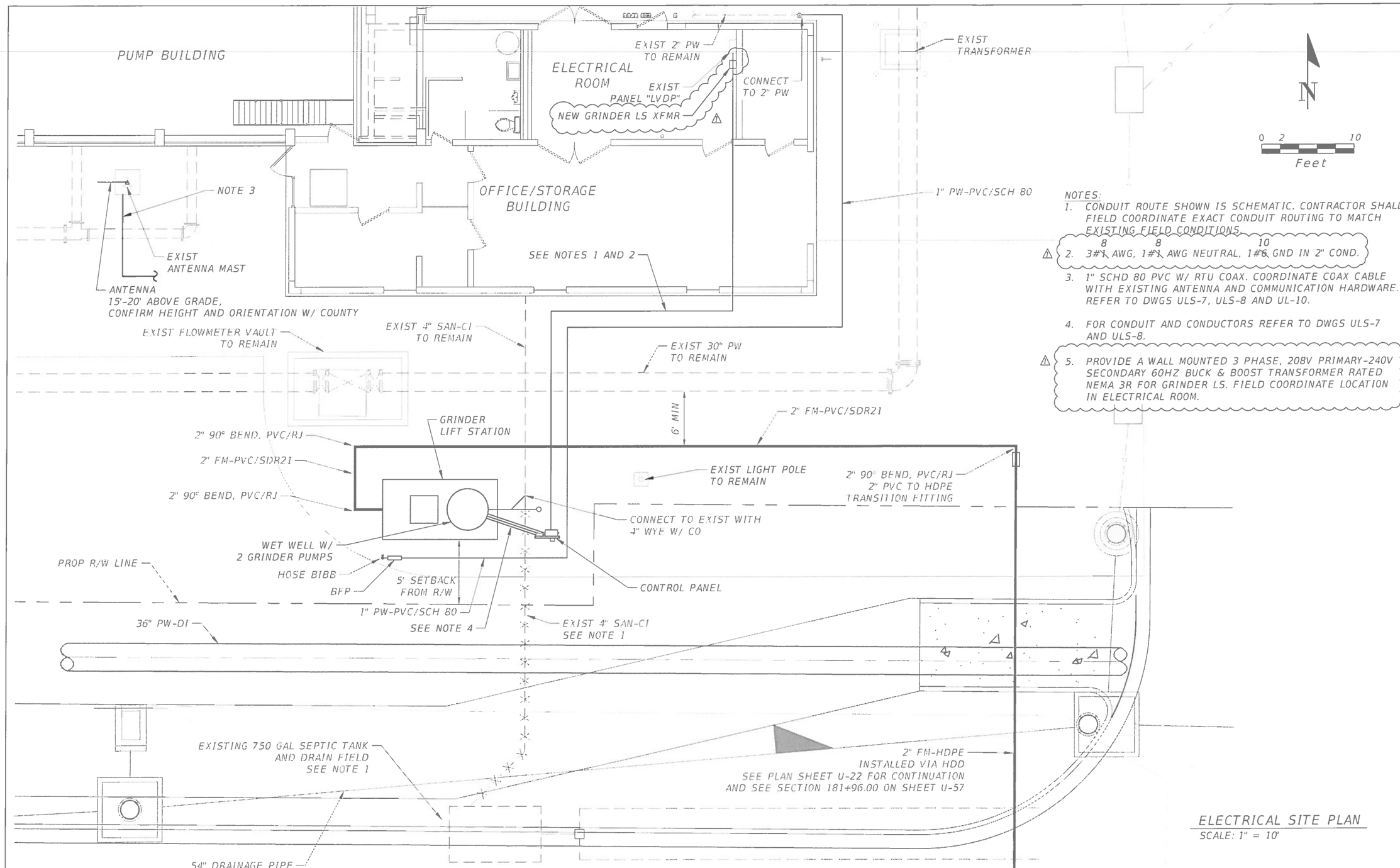
DESIGN ENGINEER: TIMOTHY M. CURRAN, P.E.
FL. LICENSE NO.: 34809

GRINDER LIFT STATION AT ELWOOD 1 PS NOTES

SHEET NO.: ULS-4

Sonnenberg, Terence 12/19/2019 2:29:01 PM S:\Projects_RDWY\ProjFdot\ProjFDOT\V8\60460213000\ulls\cadd\LIFT STATION.dwg

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



NOTES:

1. CONDUIT ROUTE SHOWN IS SCHEMATIC. CONTRACTOR SHALL FIELD COORDINATE EXACT CONDUIT ROUTING TO MATCH EXISTING FIELD CONDITIONS.
2. ⚠ 3#~~1~~ 8 AWG, 1#~~1~~ 8 AWG NEUTRAL, 1#~~6~~ 10 GND IN 2" COND.
3. 1" SCHD 80 PVC W/ RTU COAX. COORDINATE COAX CABLE WITH EXISTING ANTENNA AND COMMUNICATION HARDWARE. REFER TO DWGS ULS-7, ULS-8 AND UL-10.
4. FOR CONDUIT AND CONDUCTORS REFER TO DWGS ULS-7 AND ULS-8.
5. ⚠ PROVIDE A WALL MOUNTED 3 PHASE, 208V PRIMARY-240V SECONDARY 60HZ BUCK & BOOST TRANSFORMER RATED NEMA 3R FOR GRINDER LS. FIELD COORDINATE LOCATION IN ELECTRICAL ROOM.

ELECTRICAL SITE PLAN
SCALE: 1" = 10'

No.	REVISIONS	DATE	BY
⚠	ADDENDUM	12/19/19	TS

SCALE: AS NOTED
DESIGNED BY: C.T.
DRAWN BY: T.S.
CHECKED BY: C.T.

CARLOS TURCIOS, P.E.
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CERTIFICATE OF AUTHORIZATION: 8115

DATE: FEBRUARY 2018
PROJECT NO.: 6086960

Manatee County FLORIDA
PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East, Bradenton, FL 34208

DESIGN ENGINEER: CARLOS TURCIOS, P.E.
FL. LICENSE NO.: 64578

GRINDER LIFT STATION AT ELWOOD 1 PS ELECTRICAL SITE PLAN

SHEET NO.: ULS-6

Sonnenberg, Terence 12/19/2019 2:29:30 PM
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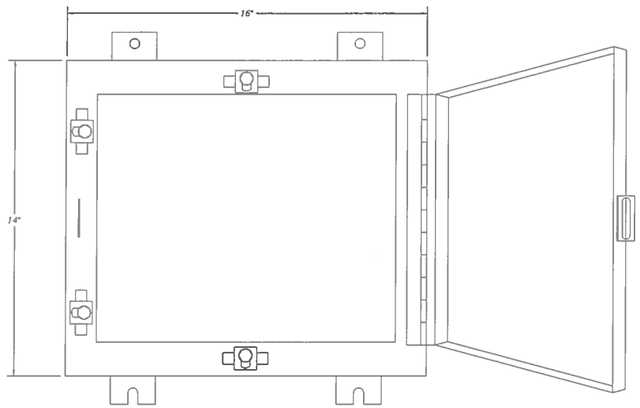
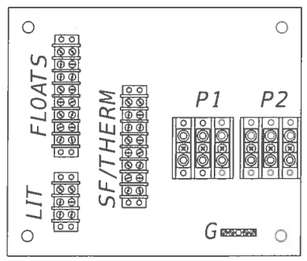
JUNCTION BOX BILL OF MATERIALS			
QTY.	ABBR.	DESCRIPTION	MANUFACTURER, PART#
1	ENC	ENCLOSURE, 304SS N4X (WHITE)	CUSTOM EQUIPMENT, 14X16X8-WHT-MANCO
2		8-POINT TERMINAL BLOCK	IDEAL, 89-208
1		3-POINT TERMINAL BLOCK	IDEAL, 89-203
2		PUMP TERMINAL BLOCK	MARATHON, 1323572
1	G	GROUND BAR	EATON, GBK5



JUNCTION BOX

ENCLOSURE
POWDER COATED
WHITE



BASE PLATE

JUNCTION BOX

PANEL "LVDP" (NOTE 2)
VOLTAGE: 208/120V PHASE: 3 WIRE: 4 60HZ
MAINS: MCB AMPS: 225A MOUNTING: SURFACE
MIN. INTERRUPTING RATING: 18,000 A NEMA: 12

CKT NO	DESCRIPTION/LOCATION	BREAKERS POLE	BREAKERS AMPS	KVA		BREAKERS AMPS	BREAKERS POLE	DESCRIPTION/LOCATION	CKT NO
1									2
3	EXISTING PNLBD. 'D'	3	150	47.13	8.38	100	3	PNL 'PPG'	4
5									6
7	PUMP P-2 HTR	1	20	0.35	0.72	20	1	LIGHTING	8
9	PUMP P-3 HTR	1	20	0.35	1.08	20	1	RECEPT.	10
11	PUMP P-4 HTR	1	20	0.35	1.44	20	2	WALL MOUNT A/C UNIT	12
13	PUMP P-5 HTR	1	20	0.35					14
15	SPARE	1	20	-	1.08	20	1	FUTURE A/C UNIT	16
17	SPACE	1	-	-	-	20	1	SPARE	18
19	**GRINDER LS XFMR** ⚠	30/3	7.8	7.2	1000-	20	1	SPARE	20
21	~~GRINDER LIFT STATION~~	~~3~~	~~100~~	~~7.2~~	~~1000-~~	-	1	SPACE	22
23				~~7.2~~	~~1000-~~	-	1	SPACE	24
25	SPACE	1	-	-	-	-	1	SPACE	26
27	SPACE	1	-	-	-	-	1	SPACE	28
29	SPACE	1	-	-	-	-	1	SPACE	30

SEE NOTE 1 BELOW

EXIST. CONNECTED LOAD: 61.23 KVA (169 AMPS @ 208V)
EXIST. CONNECTED DEMAND: 37.23 KVA (103 AMPS @ 208V)
MODIFIED CONNECTED LOAD: ~~88.20~~ 64.23 KVA (~~244~~ 179 AMPS @ 208V)
MODIFIED CONNECTED DEMAND: ~~60.18~~ 40.18 KVA (~~167~~ 110 AMPS @ 208V) ⚠

EXISTING PANEL TO BE MODIFIED

NOTES:

1. PROVIDE NEW ~~100A~~ ⚠ 30A 3-PHASE BREAKER AS SHOWN.
2. PROVIDE A 30 DAY DEMAND RECORDING OF THIS PANEL FEEDER IN ACCORDANCE WITH THE EXCEPTION UNDER NEC ART 220.87. SUBMIT THE RESULTS OF THE RECORDING LISTING PEAK AMPS AND PEAK POWER TO THE ENGINEER FOR APPROVAL.

No.	REVISIONS	DATE	BY
⚠	ADDENDUM	12/19/19	TS

SCALE: AS NOTED
DESIGNED BY: C.T.
DRAWN BY: T.S.
CHECKED BY: C.T.

CARLOS TURCIOS, P.E.
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CERTIFICATE OF AUTHORIZATION: 8115

DATE: FEBRUARY 2018
PROJECT NO.: 6086960

Manatee County FLORIDA
PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East, Bradenton, FL 34208

DESIGN ENGINEER: CARLOS TURCIOS, P.E.
FL. LICENSE NO.: 64578

GRINDER LIFT STATION AT ELWOOD 1 PS ELECTRICAL DETAILS

SHEET NO: ULS-10

Sonnenberg, Terence 12/19/2019 2:30:08 PM S:\Projects_RDWY\Proj\fdot\Proj\FDOT\V8\60-60213000\utils\cadd\LIFT STATION-ELECTRICAL.dwg

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